



The Centurion



The 3905 Century Club Monthly Newsletter

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Welcome!

Hello and welcome to the February, 2023 issue of the 3905 Century Club Centurion Newsletter.

Be sure to check the update on KL7JR's upcoming trip to Alaska!

The club is looking for CW NCS's. Please check out the "CW NCS's Wanted" article for details. The pay sucks, but the fun factor makes up for the lack of salary!

We are always looking for article ideas and contributions. As Kirk AA1NA would say—"The Centurion would not be the same without your articles"!

Please send articles or suggestion for articles to:

k7qhu@outlook.com.



As you read this, the Orlando HamCation 2023 which will be held at the Central Florida Fairgrounds and Expo Park, February 10th - 12th 2023 is only 5 days away! For more information check out the HamCation website at [HamCation](http://HamCation.com).



Dean's Column

Notes from the President

By Dean Davis, N7XG



Like many have said before, January 2023 is in the bucket and from what I can gather most people have recovered from the holidays, except me! For the most part I still have my Christmas lights outside. We have also completed the general election and on March 1st Kirk Frazier, AA1NA will become the next Vice President. It will take at least 6 months to get Kirk trained as the Vice President.

From what I can see from the weekly reports from Ben, AE4NT, our awards secretary we are off to a good start with both net members and Awards. Just a reminder that winter is a good time to dust off your QSL storage containers and work on new awards.

Earlier this month I was notified by the 4th area director that Robert Byers, W4RHB (eagle eyes) would be stepping down as both the 4th area Awards manager and the Century Club Cares Chairman. As the AAM for the 4th area Bob has set the bar high and processed a huge number of awards. If you see him on the nets, please send a thank you. Gary Slagle, K9GWS is still looking for a replacement for the AAM position and I have selected Steve Davis, K7QHU to take over as the Century Club Cares Chairman.

Another reminder is that we are in the middle of contest season, and you might find a “nonet” from time to time mostly due to not being able to find a clear frequency. This is not the end of the world since it usually only occurs on Friday and Saturday. If there is a not net this would be a good time to sort cards, work on awards or go to bed early.

Finally look for some exciting news in early February regarding SSB Late nets.

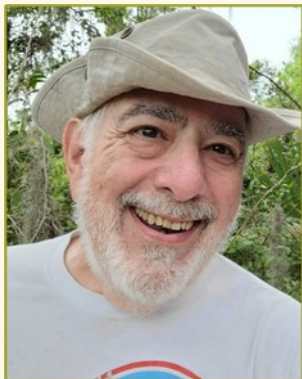
73,

Dean

BEN'S COLUMN

Notes from the Awards Secretary

By [Ben Goldfarb](#), AE4NT



How are you all bearing up this winter? It sure has been a weird one here in Florida. We have nothing to complain about compared to you folks in the northeast and midwest, but we complain anyway. I amuse myself watching my fellow Floridians skulking around layered in ski clothing when the temperature dips below 60 degrees Fahrenheit.

As you might expect from my weather related opening, I don't have much to say this month. I'll give you some odds and ends, and later, you'll see that some of that can be taken literally. However, first, I want to apprise you of an important change in how Awards News will be distributed.

Awards News Changes

As you know, I put out a weekly summary of awards earned during the week called *Awards News*. Along with the awards recap, I often add tips and information about the awards program. Currently, the distribution is via four reflectors: [3905AwdTalk](#), [3905Checkins](#), [3905Chatgp](#), and [Hamtown](#). This multiple posting creates confusion and results in comment threads that are scattered across different groups, such that when I respond to a question, I need to cross-post the answer *and* the question to all the reflectors so readers who never saw the question know what the hell I'm talking about.

You get the picture.

With the coming shutdown of [3905Checkins](#), I felt that I should take the opportunity to consolidate my Awards News postings into a single group, one that was designed for the purpose, and one in which I'll have the ability to use some fancy formatting if I want (which has been a problem with some of the reflectors). The Award Talk reflector ([3905AwdTalk](#)) is the perfect place for my weekly bulletin!

I will be taking over as owner of that reflector on February 1. I will continue to cross-post Awards News to [3905Chatgp](#) and [Hamtown](#) for one month before I begin posting only to [3905AwdTalk](#). This will give those of you who wish to continue reading Awards News an opportunity to subscribe to that group. You can do this by sending an email to 3905AwdTalk+subscribe@groups.io. I'll make mention of this in Awards News throughout the month.

The Club will benefit from this in a few ways. For one, I'll be able to format the information prettier. Moreover, as I mentioned previously, we'll be able to consolidate awards related discussions in one place, where the AAMs, the Awards Committee, and I will be there to answer awards questions authoritatively, so members can avert the misinformation they get via AIM and social media.

So, please subscribe to [3905AwdTalk](#) at your earliest convenience!

My Kishkas

You remember my missed 2022 Eyeball trip? Remember the aborted Pennsylvania trip the following week, as I attempted to salvage some semblance of a summer vacation? All that seems long ago: last July and August, almost six months in the past. The wheels of medical progress turn slowly for us purportedly middle-class peons. I've finally finished with the medical workup that started back then.

After much testing, prodding from both ends, and blood loss due to rampant pincushioning, my crack medical team has concluded that three problems caused the debilitating July/August: chronic erosive gastritis, diverticulosis, and lactose intolerance.

Other conditions I have might kill me, but those mentioned above will likely be more of a literal PITA.

I'll be back next month. In the meantime, stay well!

NCS's FOR OUR CW NETS NEEDED!

After many years of running CW nets for our club, Gary K5GEB has retired from his CW NCS duties. Thanks Gary for all the CW Nets you have conducted in the past. You will be missed and hopefully sometime in the future you will be able to resume your NCS role on the CW Nets.



The Club runs CW nets on the 160m, 80m, 40m, and 20m bands. If you have ever thought you might like to try your hand at running a CW net, now would be a great time to volunteer. If you think you might be interested, check out the "CW Nets 101" page on the club website at: [The 3905 Century Club - CW Nets 101 \(3905ccn.org\)](http://The3905CenturyClub-CWNets101(3905ccn.org)).

If you are interested in giving CW NCS'ing a go, please contact the CW Net Coordinator, Steve Davis, K7QHU (k7qhu@outlook.com) for more information.

more on...KL7JR 2023 Road Trip: Back to Alaska

This journey is more than just another Amateur Radio adventure for me. It's once again giving in to the "pull" that Alaska and the Yukon has on me. I can only say it's an intense feeling from within and not all experience it. It has never left me!

Several new calls will be used up north during my March-May 2023 trip. Some calls include: **KL7JR and KL7RST/p 4 Corners, KL7JR/m or /p CA National Parks, KL7RST fixed from Anchorage, and /m or /p from the Yukon, Alaska and Northwest Territories. KL7JR/m will also be new for Alaska, and /m and /p from VY1 and VE8. KL7RST is a card requested club.** I will operate from the Alaska/British Columbia border, British Columbia/Yukon border, Alaska/Yukon border, British Columbia/Northwest Territories border and from Fort Liard, NT. **National Parks activated will be: Kluane (pronounced KLOW-AHH-KNEE) in the Yukon, and Denali, Kenai-Fjords and Wrangell-Saint Elias in Alaska.**

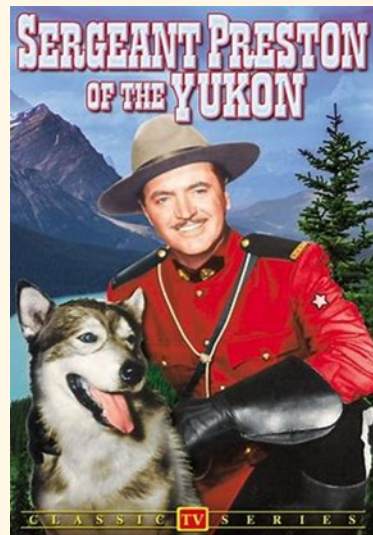
Game Plan

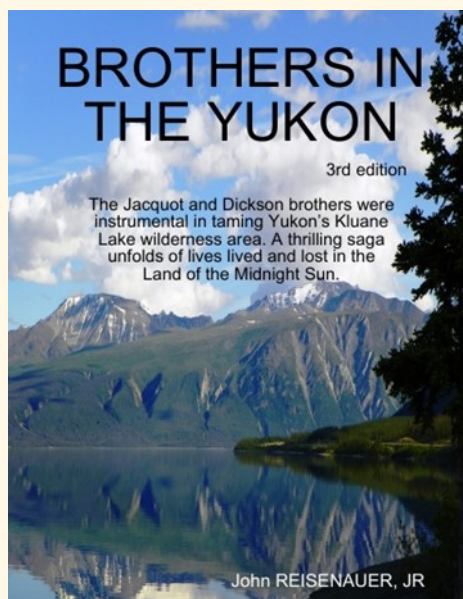
The game plan is to head back to 4 Corners (**ETA March 23**, I was there last June) for 20, 40 and 75m portable (new) then several National Parks in CA as I head north to Alaska. Hyder, AK and Stewart, BC border is the first stop in Alaska. Next, I'll head 400 miles north and operate on the BC/YU border near Upper Liard, YU. After a day or two I'll head west on the Alaska Highway for Whitehorse and the AK/YU border operating then further west to Anchorage, the Alaska National Parks and Fort Liard, NT on the return trip. All we need is decent propagation...I'll be there!

DID YOU KNOW?

The Yukon is no longer the Yukon Territory. In 2008 Canadian Government "pinheads" decided for whatever lame reason that "territory" will be deleted in reference to the Yukon. With the stroke of a pen, hundreds of years of Yukon Territory history were erased. Even though she lost her territorial status, most Yukoners today, with thumbs down for the pinheads, still refer to the Yukon as the Yukon Territory!

I first visited the Yukon in 1989 when I arrived at Whitehorse (VY1DX op) then 150 miles later Kluane Lake in Kluane National Park. Who knew I'd be chasing National Parks 30 years later, hi hi! I was totally spellbound by the rustic beauty of Kluane Lake, my favorite camping/DXing spot! Thousands of radio contacts have been made from this beautiful lake. The lake houses two islands, the largest is Jacquot and then tiny Fish Heart at the southern end. I wondered how an island in the Yukon had a French name. I





I became so obsessed with this that after about 15 years of research, I published *BROTHERS in the YUKON* (LuLu.com), the trials and tribulations of the Jacquot and Dickson brothers who were the early white settlers in the Kluane area. I reached out to all the families to gain information, as I hunted the newspapers and internet with passion. Today Yukon Archives in Whitehorse and the Jacquot/Dickson descendants consider me an expert on the Jacquot and Dickson family history. An honor I am very proud of!

[The Alaskan author obviously did a considerable amount of research here. The end result is not only a special manuscript dedicated to the Jacquot and Dickson

families, but a thrilling eye-opener to an exciting place not all that far away!I was on a wonderful knowledge quest and it was as if I was walking with the author in his unique writing style. More than 2 thumbs up on this one! R. Richie, K5YB]

Hyder, Alaska At first glance you'd think it was a ghost town. Hyder is the only Alaska town you can drive to without going through the Yukon. Stewart, BC is a mile away and supplies Hyder with all the necessities of life- food, fuel etc. Hyder children attend school in Stewart. 2010 population of Hyder was 87.

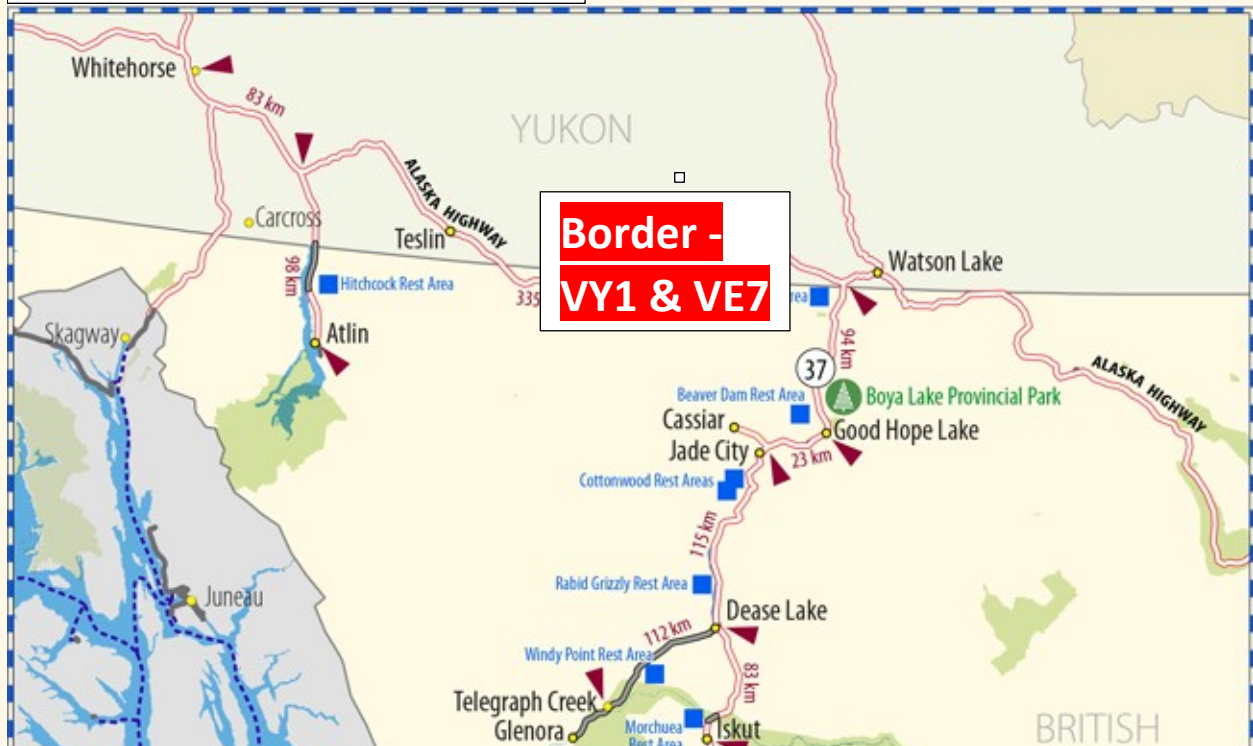
Upper Liard, Yukon Upper Liard (pronounced "lee-ahrd") is a chiefly First Nation settlement immediately west of Watson Lake in Canada's Yukon. It is situated at historical mile 642 of the Alaska Highway. Most of the residents are citizens of the Liard River First Nation. 2021 population of Upper Liard was 130.

Fort Liard, Northwest Territories Slavey language: Echaot'I Koe "people from the land of the giants" or Acho Dene Kue) is a hamlet in the Dehcho Region of the Northwest Territories, Canada. It is located 37 km (23 mi) north of the British Columbia border. It became accessible by road in 1984 with the completion of the Liard Highway. 2021 population of Ft. Liard was 460.

In conclusion, please pray to the propagation gods for good conditions so that everyone who calls makes my log. West coast and Midwest stations please relay when you can as you'll probably have better reception. Thanks, and special thanks to all NCS bringing the nets.

73, de Yukon John

West on AK Hwy to Kluane NP, Yukon & KL7 border



KL7JR 2023 Road Trip: Back to Alaska



ETA Hyder April 14, ETA VY1/VE7 border April 19 & ETA Kluane NP April 21

Flying with Mike, KU1V

In response to a question during one of the club's weekly ZOOM meetings, Mike, KU1V gives us some great insight on one of his trips this past summer. Thanks Mike!

August 22, 2022

During one of our Wednesday Zoom meetups the question was asked how long it took me to fly between Great Falls, Montana and Idaho Falls, Idaho. The simple answer is about 2 hours and 21 minutes (2+21 flight time), (see attached log), but that is not the entire story. In addition to flight time there is a long string of other necessary items, such as weather check, flight planning through an FAA entity setup for such purposes, fueling, and pre-flight of airplane and equipment (assurance all systems are functional). Upon arrival at your destination parking and securing of the airplane, usually tied with ropes between ground points and the airplane. So probably that 2+21 flight time was at least doubled to complete the flight. So.... here is a portion of my trip between Great Falls MT and Idaho Falls ID with continuing stops, to Carlsbad NM.

Monday 08-22-22

Navigation Log

Dep:0700L (GMT-6) - Arr: 0922L (GMT-6)

N7001M	VFR	GenAv	C175/U	Equip: S/C	ATIS: 126.6 ASOS Ph: 406-452-9844
Dep: KGTF	1300Z	112kts	07,500	Route (see below)	CInc: 121.7
Dest: KIDA	ETE: 2:22	Alt: 11	REMEMBER: Close VFR Flight Plan		
Item 18: DOF: 220822 REG: N7001M	FSS: 800-992-7433 (1-68-1)				
Item 19: FOB: 0465 SOB: 1 PIC: MICHAEL RUSH	Elev: 3680 Gnd: 121.7 Twr: 118.7				

K8U9 K955 KEKS KU53 KU12 *22.3 Radio*

KGTF to KIDA: TC=188° (FMS winds: 188°/3); MC= 175°; ST. LINE=240nm; AIRWAY=248nm; Extra=3%

Winds Aloft	9,500 ISA(-03) Comp	7,500 ISA(+01) Comp	Not Available	Not Available
K8U9	236/007 +15 -005	191/005 +14 -005		
K955	239/005 +16 -003	184/003 +15 -003		
KEKS	252/004 +16 -002	203/003 +15 -003		
KU53	268/003 +16 +001	241/003 +14 -001		
KU12	262/003 +16 -002	251/004 +14 -003		
Avg. Trip Winds=>	- 3 Headwind	- 3 Headwind	- 2 Headwind	- 1 Headwind
FLT TIME=>	2:24(+02) 110TAS	2:22(+00) 112TAS		
Fuel Burn=>	22.9 Gal.	23.0 Gal.	-	-

FIX	ST	LAT/LON	In/Out Mag Crs	Leg	Rem	Fuel Burn Leg Tot.	Leg	Rem	ETE	ATA	WX
KGTF GREAT FALLS	MT	N4728.9W11122.2	---/175	0	248	1.0 1		0:00	2:22	0:00	
K8U9 TOWNSEND	MT	N4625.1W11134.6	171/162	64	184	6.3 7		0:38	1:44	0:38	
K955 THREE FORKS	MT	N4552.7W11134.2	163/169	32	152	2.7 10		0:18	1:26	0:56	
KEKS ENNIS	MT	N4516.5W11138.9	173/149	36	116	3.0 13		0:20	1:06	1:16	
KU53 ISLAND PARK	ID	N4438.1W11120.6	145/184	41	75	3.4 16		0:22	0:44	1:38	
KU12 ST ANTHONY	ID	N4357.0W11141.1	184/196	44	31	3.6 20		0:24	0:20	2:02	
KIDA IDAHO FALLS	ID	N4330.8W11204.2	200/---	31	0	3.0 23		0:20	0:00	2:22	

Elev: 4744 Atis: 135.32 AWOS: 135.32 Twr: 118.5 Gnd: 121.7



Fuel hourly method: 23

Fuel (gal.)	Taxi: 1	Trip: 22.0	Alt: 0	30 min(day): 4.8	Day Min Fuel Required: 28
				45 min(night): 7.2	Night Min Fuel Required: 30

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08/22		Sunrise	Sunset
KGTF		6:31	20:25
KIDA		6:41	20:21

in:	on: 1519	Start:	
out:	off: 1253	Rem:	
Block Time:	Flight Time: 2+21	Fuel Used:	

Thanks for using FitPlan.com

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August 22, 2022

Picture of airplane early AM preparing to leave Great Falls, Montana.



Route of flight being Southerly toward Townsend, MT (East of Helena, MT) then continuing southerly down the Gallatin Valley passing just West of West Yellowstone, MT., and continuing Southerly toward Idaho Falls, ID. The Gallatin Valley is an excellent route as, not only colorful, the valley affords flying at lower altitude (about 7500 ft MSL) although the mountains are higher off to sides of the valley. Gallatin Valley is just West of the Bozeman. (See Links)



[Gallatin Valley](#)

[Gallatin County, Montana - Wikipedia](#)

Why Idaho Falls? Although a 2 ½ hour drive to Jackson WY., I looked forward to a scenic drive winding thru mountains and some of the Snake River valley. Rental car and accommodation were just simpler in Idaho Falls.



Jackson and Jackson Hole, WY., are generally the same, just that the term Jackson Hole takes in the entire valley which includes Town of Jackson WY. Although the sign says "The Last of The Old West" not sure what that meant when I came upon a good old fashion (newly constructed) traffic rotary by the airport with some normal(?) decorations.





Near Teton Pass was an example of the four seasons, Fall, Winter Spring and road construction. The drop off the pavement was about 12-18 inches – signage indicated, be sure to stay on the paved road.

August 23, 2022

Onward to the Great Basin NP in Nevada. Again, flight planning was completed similar as above. Routing today will generally fly southerly with an easterly parallel of Interstate 15, passing East of Pocatello ID, near Soda Springs, overhead Salt Lake City, Provo UT with landing at Nephi, UT. Nephi is well known in aviation as a Sail Plane (glider) center. Many airports have crew or courtesy cars available and I was very lucky to obtain a car here, in addition they allowed me to travel an extend distance through Delta, UT., and on to Nevada and the Great Basin NP.

First picture is passing over Salt Lake City area and second picture looking west toward the Great Salt Lake.





Packing car preparing for drive to Great Basin NP. One portion of drive along route 6/50 passing Sevier Lake, was about 80 miles, perhaps 6 other travelers on this stretch of road with NO services – as the signs essentially says before starting this stretch, “check your fuel.”



KU1V at Great Basin NP.



Parking lot Great Basin NP. See mobile shack on dash, IC-706 Mk2G.



This old rifle was found in Great Basin NP, and believed to have leaned on a tree for near 100 years before being found.



<https://www.nps.gov/grba/index.htm>

August 24, 2002

Again, fueling, preflight complete now continuing to Grand Canyon NP.



Passing Bryce City (Bryce Canyon), UT



Grand Canyon area.



Grand Canyon area



KU1V Grand Canyon NP



KU1V Guadalupe Mt NP

After Grand Canyon I flew easterly towards Gallup NM, Albuquerque NM with fuel stop in Moriarty NM. Then departing southerly to Carlsbad, NM. After renting a car I drove to White City NM acquiring overnight accommodations. Now planning to operate from both Guadeloupe Mts. NP and Carlsbad Caverns NP being there only about 40 miles apart. With operations completed at Guadeloupe NP, I drove to Carlsbad Caverns NP, but regrettably fell asleep while waiting for late net to start -- thus no operation from Carlsbad Caverns NP. Being the week-end coming up and rental car issues, this was the end for this trip. After several flight hours, I returned to New Hampshire where the Beerbulance was summoned.



Thanks for all the great QSOz -- Until another trip – 73 Mike KU1V

Hy-Gain Trap Project @ AA1NZ

The story began when I sold my Hy-Gain EXP-14 four band (40-20-15-10M), HF beam (nowadays called a Yagi). It seemed to be working fine on the air, so I assumed all was well and I could inform the buyer everything seemed as it should be with his new used antenna. After I had the antenna down and off the tower with a pickup day arranged, I decided to run a “sweep” of all four bands with my Zoom AA-35 antenna analyzer. This would confirm my thought that all was well. OH-OH!! The only band with remotely acceptable SWR was 40M (the band I was primarily using). Well, an embarrassing call to the buyer came next. I offered him the chance to cancel the sale or wait while I made the necessary repairs. Surprisingly, he wanted to wait as he didn’t need the antenna for a few months anyway. Plus, it was an excellent buy for him.

So, a quick explanation for anyone wanting to know what an antenna “trap” is. Possibly, another term to use for a better understanding of the function of a “trap” is a “circuit opener”.

When designing multiband antennas using single elements, some method of creating multiple resonant element lengths needs to be accomplished. To do this, a parallel resonant circuit (inductor and capacitor in parallel) are inserted in series on the single element. Visualize a vertical like a Hustler 5BTV (five band trapped vertical). It’s a long vertical pole with several traps in series along the length of the pole. The first trap blocks or opens the circuit at design frequency creating the length for the first resonant band. Since this will make it the shortest section of the radiating element, this section will resonate on the highest frequency band being used for this design. Same idea for the next few traps.

Now, take two of these trapped verticals and turn them horizontal. Connect them in the center on an insulated boom and add a feedline, and you have a trapped dipole. Add a couple of parasitic elements (director, reflector, etc.) and you have a Yagi.

OK...On to the repair project. Each of the 23 pictures are numbered, and I’ll give a short description beside each number.



1. This is the “famous” Hy-Gain BN-86 Balun. It’s a 1:1 balun provided by Hi-Gain with the antenna for matching unbalanced coax feedline to the balanced (dipole) radiator. A few loops of coax at the feed-point can accomplish similar results, and many older Yagi users do this. This box is sealed, but with careful prying, the cover can be removed without breaking it. There are “weep” holes in the end of the enclosure to vent moisture, but insects always find them inviting places to enter their newhomes. You can see some bug “stuff” here, but Just wait!



2. The black rubberized plastic end caps can be removed by gentle twisting and pulling. When I pulled the first one off, I was greeted with this view. Bug stuff packed right to the end of the tube (the capacitor part of the resonant circuit).



3. Closer view of the bug “stuff”. They entered thru the weep holes closer to the center of the tube.



4. All ten traps with the end caps removed and bug stuff removed from the accessible portion of the tube.



5. One of the two 10M traps being tested. They should have come in closer to 28 MHz, but instead “dipped” at 15.299 MHz. OH-OH...something’s rotten in Denmark! My newer Leader solid state GDO didn’t have the “nut” to resonate the trap, but the old faithful, line powered Millen did the job easily. (If you notice the nameplate, this thing was built before zip codes and 2 letter state abbreviations were necessary)



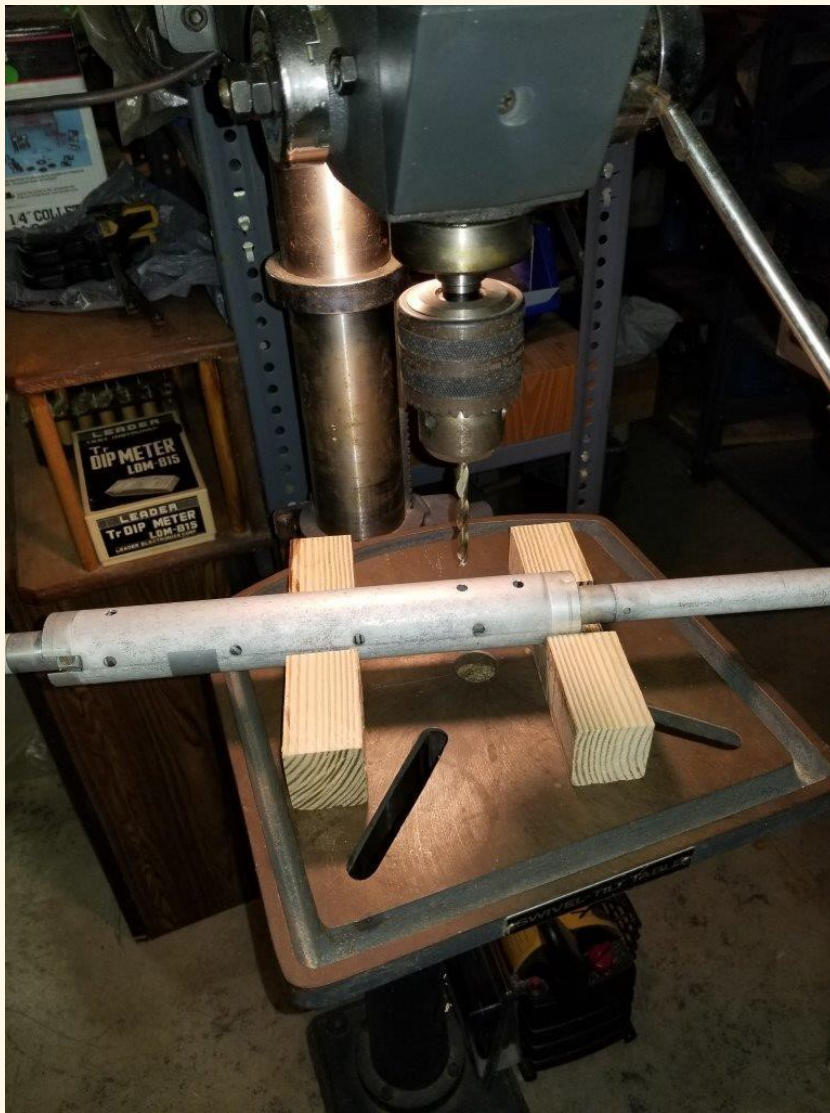


6. What bug stuff does to electrical connections. This tube is used as the capacitor part of the resonant circuit and is only connected to the element at one end (the end towards the boom). AH-HA....possibly part of the reason the thing is no longer resonating where it should have been!



7. A close-up of the capacitor's connection - A GAP! This should be a solid connection without corrosion. A note about this connection. It is a "tab" formed by cutting a slot in the tube and bending it down. Then putting a hole for the mounting-screw to go through it.

Be really careful handling this tab as it will easily break from bending it too often. It's thin aluminum, so use caution. I broke one but cut another using tin snips and right beside the original. Be careful !



8. Time to disassemble the trap. There are nylon like circular spacers under the capacitor tubes that slip over the elements and keep the tubes in place and evenly spaced over the coils underneath them (the inductor part of the resonant circuit). These nylon spacers are held in place inside the tube by punching small “dimples” in the outer tubes and therefore into the spacers inside (using a pin punch). I drilled the “dimples” from the tube to relieve the pressure on the spacers and allow them to move so I could remove the outer tube. I drilled $\frac{1}{4}$ ” holes (same as the original weep holes) but should have drilled a smaller size hole (maybe $\frac{1}{8}$ ”) as there would be less to fill with sealant afterwards. Don’t fill the weepholes when done, just the dimple removal holes. Here’s a good picture to note the position of the weep holes vs the dimple

holes. The weep holes should always be on the bottom of the trap (or the 6 o’clock position) facing down when re-assembled and in use. That also makes the capacitor tab on the underside as well. The new dimple holes when the antenna is back in use will be towards the sides near the 3 and 9 o’clock positions. Only these new dimple holes should be totally plugged with an RTV type sealant.



9. Sliding the inductor and the spacers out of the tube. The innards slide away from the tab end of the tube and come out the open end. And also, out came an unbelievable amount of bug stuff with everything else. Now you can see the element, the inductor, the capacitor and the spacers.



10. With some of the bug doo removed, you can see the damage and corrosion it can cause. Note...only the driven element had the copper inductors. All the other coils were aluminum.



11. If you look closely at the aluminum coil, you can see the nylon like insulator under the coil. That's also used to insulate the coil body from the elements on either end.



12. Close up of some bug doo damage Also please ignore the slot I had cut into a few of the insulating spacers. It was a not well thought out, re-assembly idea that wasn't necessary.



13. Easy to identify the aluminum and copper coils. Just for info.....These coils not only provide inductance in the resonant circuit, but also have some effect as loading coils on the entire element. Hence “shorter” elements. The tip to tip on the 40M dipole element was 44 ft instead of the usual around 65 feet for a 40M, half wave dipole.



14. Close up of the tube, the tab, the spacer, the coil, the element insulator and connection points.



15. Close up of the tab end of the tube and you can see inside the tube where the nylon spacer was situated originally.



16. All the innards of the 10M trap. Especially notice the sheet metal screws. #6 and #8 with external lock washers. Every screw, washer, nut and bolt was replaced with 80-8 stainless steel. Every connection was cleaned with scotchbrite pads or brass bristle brushes and then a Penatrox A type corrosion compound (compatible with copper, aluminum, and stainless connections) was used to coat the contact areas with a thin film.



17. After the coils were cleaned, an overcoat of insulating varnish was sprayed over them. After the new connections were cleaned and remade, a final coat of varnish was applied over all.



18. First pair finished. New end caps are available from MFJ (apparently now the owner of the Hy-Gain name/products?) and were around \$20 (including shipping) for 20 new caps.



19. Six done, four more to go. The shortest are 10M traps. The medium length ones are 15M traps. The longest ones are for 20M. After all ten traps were finished, they were run through the grid dip test again. All tested as expected. Each band trap dipped just below the desired resonant frequency and the traps for the same band were consistently very close to the same frequency. That's a good thing.



20. The refurbished balun. This mounts under the boom below the driven element near the center.. It was reassembled and sealed easily with some Permatex RTV type sealant and made ready to mount with a new stainless u-bolt and nuts.



21. Some of the products used. The insulating varnish is available at just about any electric motor repair company. The Simple Green aluminum cleaner (approved by Boeing!) and the brass bristle brushes I found at McMaster Carr Industrial Supply. I prefer the brass over steel brushes.



22. A few homemade tools that helped: Schedule 40 PVC tubes used as insulating spacer drivers. A rubber mallet to get the elements to move when they couldn't be loosened by gently twisting with my hands. A homemade hook tool to pull the spacers back when I put them in too far during re-assembly (I also used it with a 3/8 socket over the long side as a slide hammer on sticky ones). A 2X4 with a hole bored in the middle and then cut in half to make a 2-piece cradle to support the traps during the process.



23. AHHHH...Sweet!

Re-swept with the antenna loosely re-assembled. Not adjusted to optimum dimensions yet and supported on plastic sawhorses about three feet off the ground. All four desired bands dip very close to where they should, and all show a 2:1 SWR or better before tweaking. The blue lines are 7 ham bands. This shows the antenna is happiest near 40,20,15,and 10 M.

(I really like this Zoom AA-35 Analyzer)

Thank you for reading, and I hope you found this interesting.

73,

Tom AA1NZ

ADDENDUM

After completing this report, I sent a copy to a ham friend with a strong background in antenna theory and considerable antenna dynamic testing experience. I requested a proofread and critique. I liked his suggestions and comments so well, that with his approval, I will share some of them here.

>>Traps are the biggest headache with any shortened antenna; all require maintenance. If taken for granted, they can send people on wild goose chases looking for antenna issues. With that in mind, it's the first place I tell people to look after the obvious (connectors, baluns, etc), and it's frequently where the problem turns out to be. Of course, accessing traps is usually problematic, so it's the last place people want to look. Yep, cleaning out traps and clearing weep holes is good preventive medicine

>>Tell the audience how long the beam was on the tower and whether you had ever done any routine trap maintenance. In other words, how long did you leave them out of sight and out of mind?

The antenna had been on the tower since 2002. It was lowered once to replace the coax before being taken down for the final time in 2022. Yep...out of sight and out of mind for 20 years. Why mess with it ? It was working perfectly (I thought).

>>You gave people the side-benefit of a foray into "the way we were" in test instrumentation with the Millen grid dip meter and the Heathkit frequency counter. Life is too damn easy these days with solid-state spectrum analyzers and tracking generators -- a taste of the good old days reminds people that we could use our own brains with available "crude" tools back in the 50s and 60s.

>>HyGain is indeed part of MFJ, as is Cushcraft

Thank You Ben Goldfarb - AE4NT !

Operation Deep Freeze—The Last Chapter

By John Reisenauer Jr, KL8JR/VE8JR

Reprinted from QST Magazine June 2000

In Canada's Northwest Territories, the November Sweepstakes takes place in the dead of winter. But even if the weather is cold—the bands are hot, hot, hot!

My Amateur Radio junkets often take me to remote, picturesque places. This trip north would be no exception. I couldn't think of a more fitting way to end my latest book, *Amateur Radio Up North: A Decade of Radio Adventuring in Alaska, Yukon Territory, Northwest Territories and British Columbia*, than to usher out 1999 by working the ARRL November Sweepstakes contest from Canada's remote Northwest Territories.

North of 60° latitude, snow blankets the ground from October to April. Beaches of snow, rivers of ice and mountainous landscapes carpeted in evergreens combine to form a perfect winter beauty.

As you read this, the residents of western Canada are getting used to a boundary change. This vast region split into two separate territories on April 1, 1999. The western part remains Northwest Territories (VE8), but the eastern area is now Nunavut Territory (VYØ). These are exciting times in Canada's frontier.

With three northern Sweepstakes under my belt (1990 NL7TB/VY1, 1991 NL7VJ/VY1 and 1993 VY1QST), it was time for a little QRM from the "other" rare Canadian multiplier, VE8.

Setting Up

Although the three-day drive from Seattle was scenic, my mind was on the contest and operating from the Northwest Territories. Propagation was terrible during my first two days "in country." Waiting for my partner, Mathew, VE8MN, gave me time to operate HF mobile. There was a slim chance he'd be able to get to Hay River from his bush location, but with the late winter, his "ice road" was still "open water."



"David and Goliath!" The huge tropo-scatter antenna to the right is Goliath, an aging remnant of the DEW line system. It dwarfs portable station VE8JR on Vale Island in Hay River, NWT.

Band conditions greatly improved early the next morning. Ten and 20 meters were wide open. It was now time for me to get “serious”! The snow was impossibly white, impossibly clean, crunching under my insulated boots. Snow-laden jack pines dot-ted the landscape. A brisk Arctic breeze blowing carelessly off the Great Slave Lake irritated my face as I worked on the tower and antenna. The mercury had already dropped to -15°C . I didn’t even want to know what the wind chill factor was!

Months ago, my oldest son John, KC7FVA, designed and installed supports for a hinged base plate, bolted to the bed of my truck, that would accept a 10-foot tower “top section.” This is the same setup I’ve used from the roof of my motorhome to support a tribander!

My equipment included Kenwood TS-570D and Yaesu FT-747GX transceivers, a Vecronics VC-300M mobile tuner, a Solarcon A99 vertical (10-17m) antenna, an Outbacker 500 vertical (10-80m) on a magnetic mount, a 1-kW Honda “extra quiet” generator and a Rohn 10-foot tower top section with a 20-foot mast. I also kept a fully-charged 12-V RV battery handy to pick up part of the load and aid in starting the truck, if necessary. Under an icy dark sky and the aurora borealis, I was more than ready to work the world.

Ten meters was crowded, with strong signals up and down the band. When I announced I was on Vale Island on the Great Slave Lake, all heck broke loose. I vividly explained my operating position and the landscape in detail, including the government’s large tropo-scatter antenna located nearby. Some of the locals told me it was part of the “DEW line” anti-ballistic missile early warning system. It must have helped me attract signals because I easily worked WAS and just missed Worked All Provinces (Yukon and NWT couldn’t be found).

Signal reports of 59 both ways were common, with several Japanese stations reporting 20 over S9! DX stations making the log included KL7, EU7, UA9, 9X, ZL1, FK8, HK3, KH6 and JA1-5.

Vale Island, the old village of Hay River, was qualified as NW-046 for the Canadian Islands Awards (CIsA) program. I purposely operated below 28.500 MHz to work new US Novices and Technicians. It paid off, as I was kept busy for about five hours giving many hams their first VE8 contact.

Dozens of contesters asked me where I’d be for Sweepstakes. This surely was free insurance for me, but 400+ QSOs had to-tally exhausted me. Hungry and sporting a nasty sore throat, I pulled the plug. Despite the aches and pains, the feeling of accomplishment was intense.

A few hours later I took advantage of the “heat wave” (it was -5°C and it should have been -40°C !) and hastily installed the A99 vertical on the second-floor balcony railing of my motel room. Northern proprietors are quite accommodating, especially while they’re being patronized!

The vertical was about 30 feet above ground and a snap to “hose clamp” to the railing. In the next two days I worked 10,15, 17 and 20 meters from the Caribou Motor Inn in downtown Hay River. What a feeling to be able to create pileups on several bands! About 400 more hams made my logbook.

I was operating casually to save my voice for the contest. New DX stations included KH6, KL7, JA, YS, HL, RA, ZL, DU, OE, SM, LA, ON, IZ, DL, YL, XE, VK and HK. That’s not bad for a \$49 vertical, eh?

The Great White North

The Northwest Territories and Nunavut Territory include all of Canada north of the 60th parallel, except the Yukon and portions of Quebec and Newfoundland. From the 60th parallel these vast territories stretch 3560 km to the North Pole and 4256 km from east to west, covering almost 3.5 million square kilometers, including the islands in Hudson, James and Ungava bays. This vast land is home to only 64,000 people. Yellowknife, the modern capital city, has a population of about 18,000. Hay River is about 200 miles south of Yellowknife. A fast-growing town on the south shore of the Great Slave Lake, Hay River is the transportation hub of the north with a population of about 3400. Five or six communities spread out along the river actually make up Hay River.

CQ SS CQ SS DE VE8JR

Outside, fierce Arctic winds blasted everything in sight. My truck kept my motel room door from icing up (many others weren’t as fortunate). Inside, I was snug and warm, rag chewing with Butch, NN2T, an



VE8JR mobile near Enterprise, NWT.



ARRL November Sweepstakes station VE8JR was housed at the Caribou Motor Inn, Hay River, NWT. Our A99 vertical antenna was clamped to the second-floor balcony railing (see top of photo).



old Sweepstakes friend. He was informing the gang on 28.495 that he always works the “rare” multipliers first and that he’d soon have VE8JR in his contest log. It’s a ritual with us!

The contest starts at 2100Z, about 20 minutes from now. Butch actually stacked up contacts for me, as did the packet spots, which explained the terrific rate I had at the start of the contest!

The action was fast-paced on 10 meters. Everyone wanted VE8, even early in the competition. By the next morning I’d heard “thanks for a clean sweep” at least 50 times. It was a good feeling—even if I was struggling for VE multipliers!

After 0100Z, 10 meters would often fade out and I’d QSY to 15 or 20 meters and work the weak signals present there. I really had to work hard, but it was better than no contacts at all.

Ten meters was definitely hot! Most commonly heard was, “Boy, I need you” and “Hold on, VE8, I’m turning the house around!” More interesting comments were: “You guys (VY1/VE8) are easy this year”—K4WI; “I’ve worked VY1JA and you are my third VE8!”—NØIJ; “Boy, do I love you!”—VE3OGZ; “You are my first VE8 ever!”—AE5T; “Thanks a lot, you’re a life-saver!”—W9BS; “There he is!”—N4GU; “You’d better be in NWT!”—W7Yaq; “You answered my prayers!”—K16CG; “You’re a good man. God bless you!”—WN6K; and “Wow, you are easy!”—N6MJ.

I was pleased with the favorable propagation and the camaraderie on the bands. Several times operators would let other ops work me after I answered their CQs. You just don’t find that kind of “bandwidth sharing” in other contests.

In 19 hours of operation I worked 650 stations (530 on 10 m) and 71 multipliers for my “best ever” SS effort! Thanks to a wild time on 10 meters, only four hours into the contest I’d already made about 350 QSOs!

Time to Head South

Thanks go to all the ops who stood by for me, spotted me on packet or helped ensure my success in any way. Special thanks go to VE8MN for the local info, to VE8RZ for licensing, to K7LQY for the LL home and KL7KG and VE6CFD for the relays. I will always remember my turn-of-the-century

Confirming QSO With	Date	Time/UTC	Frequency	RST	Mode
	NOVEMBER		28 MHz		
	17 18 19		21 MHz		
	20 21 22		18 MHz	5x9	SSB
	1999		14 MHz		

The VE8JR “DXpedition” QSL.

Northwest Territories DXpedition. From a frozen winter wonderland of vast contrast, harshness and beauty, hearts were warmed and souls soothed in yet another exciting Sweepstakes competition. The North gets under your skin. You can't just walk away from it without feeling like you're missing something.

73, KL7JR

February 2022 Club Events

Note: Regular Board Meetings are always held on the second Saturday of each month, local time at 9PM Eastern, 8PM Central, 7PM Mountain, 6PM Pacific.

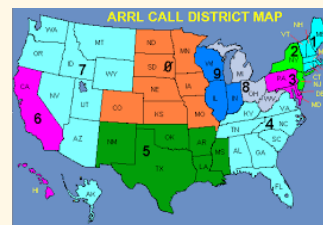
- 3905CCN Board Meeting: Saturday, February 11, 2023

A purple rectangular graphic with the words "SPECIAL EVENTS" in large, white, bold, sans-serif capital letters.

The Zoom logo in its characteristic blue, rounded, lowercase font.

Weekly Zoom Meeting on Wednesdays at 01:30pm Pacific Time. Check your email for the Zoom log-in information.

Road Trips!



No road trips were submitted for the month of February

CLASSIFIED ADS

This section is for members who would like to sell, swap, or purchase ham gear. If you would like to list your equipment here, please send the information to k7qhu@outlook.com. The deadline for ads is the 30th of the month.



No Member Classified Ads Were Submitted For This Issue

Fun Facts About Our Nets In November

Did you know we had **631 unique U.S. Stations** that checked into our nets during the month of December 2022. Check to see if you made the list!

AA0HF	K3USS	KA0BMX	KC3FSA	KE5OKQ	KI5UPP	KN4SFM	N2NCL	NO2CC	W7DFS	WD9DWD
AA0ZP	K3YMI	KA0MEK	KC3HIL	KE5UEJ	KI5UXC	KN4UXO	N2OWE	NO9G	W7DJ	WD9DWT
AA1AL	K4CCN	KA0RTM	KC3IBH	KE7GGP	KI5UYM	KN4YYB	N2PYH	NT5CN	W7PML	WE0FUN
AA1IA	K4EKC	KA1FLH	KC3ONU	KE7PLM	KI5UZV	KN5Z	N2QCU	VE6YPY	W7RDB	WE3O
AA1NA	K4GCD	KA1ULN	KC3QGE	KE7RG	KI5VKI	KN6IQ	N2QIL	VE8AU	W7RNX	WE4FUN
AA1NZ	K4JEL	KA2YDS	KC3QYE	KE8GC	KI5VPF	KO4BWJ	N2XTT	VE8RST	W7SCD	WF0M
AA1PB	K4JNG	KA2YEG	KC3RID	KE8HBY	KI5WED	KO4DHA	N3BGI	VY0RST	W7SJ	WF4H
AA2SD	K4KCP	KA3UFV	KC3SAC	KE8IME	KI5YKG	KO4ELL	N3HWH	W0FLZ	W8BI	WF4ROG
AA3JF	K4LO	KA5RAB	KC3TIU	KE8JKP	KI5YOV	KO4FEK	N4CRG	W0JKT	W8DDS	WG0I
AA5EX	K4NGR	KA5VZE	KC5DCF	KE8KKJ	KI5YRJ	KO4FUD	N4DLT	W0PZ	W8GED	WI1G
AB0DK	K4PVK	KA8PGW	KC5GKM	KE8LGC	KI6BZP	KO4JBA	N4JTE	W0RST	W8JCS	WI7LEE
AB0H	K4RWS	KA9OUT	KC5IVT	KE8RQR	KI6DTC	KO4KQK	N4YDQ	W0WDX	W8KL	WI8W
AB3TW	K4SHA	KA9TBU	KC5PLZ	KE8RRG	KI6WDY	KO4LRJ	N4ZUN	W1CBK	W8LUE	WK1J
AB3VK	K4TER	KA9YNX	KC5TMF	KE8RYW	KI7GRZ	KO4MEX	N5ASH	W1DRS	W8NET	WN0P
AB5SJ	K4TPH	KA9ZHY	KC6ART	KE8TPJ	KI7PM	KO4ODY	N5DY	W1DRV	W9AT	WN1F
AB8YZ	K4VHE	KB0BK	KC6UFE	KE8UWD	KJ4OFD	KO4OWB	N5EKC	W1GUU	W9BLI	WN8SCI
AC1OC	K4XRC	KB0EL	KC7MP	KE8VEZ	KJ4RM	KO4SGN	N5GPI	W1IP	W9CCQ	WQ4X
AC2MT	K4ZXX	KB1GWO	KC7UOP	KE8VSK	KJ4UL	KO4SOW	N5IPU	W1LJD	W9LR	WQ7V
AC7RA	K5AVL	KB1ORB	KC8HMJ	KF0ARL	KJ4ZWC	KO4TKS	N5JDT	W1T	W9ROG	WR8WM
AC9XN	K5ESJ	KB1PZS	KC9IWO	KF0ASO	KJ5HY	KO4VSI	N5KUC	W2AWW	W9TLW	WS2Q
AC9YX	K5GEB	KB1RVU	KC9JQN	KF0BFU	KJ6EEP	KO4VVH	N5MIG	W2DJG	W9VOP	WU2T
AD3AA	K5HAM	KB1XP	KC9VOF	KF0CWU	KJ7TKL	KO4WAJ	N5MNO	W2JLD	W9WWG	WU7A
AD5XD	K5MWA	KB2ADF	KC9YY	KF0EAO	KK0LD	KO4YIP	N5NVC	W2MM	WA0O	WV0U
AE0S	K5NIK	KB2ENF	KC9ZZU	KF0EAU	KK2M	KP2JR	N5NWS	W2QJ	WA0ROH	WV4TAC
AE4NT	K5PAR	KB2JKW	KD0MZL	KF0EML	KK4DCZ	KQ0EEE	N5OHL	W2RCH	WA1DD	WV8M
AE5QP	K5PN	KB2QZK	KD0WGB	KF0IJJ	KK4KSN	KQ4AAC	N5RNR	W2RSS	WA1ITU	WW0DB
AE5WT	K5PTG	KB2YNJ	KD2HEM	KF0KGY	KK4KYE	KQ4AHR	N5UTG	W2TI	WA1LNY	WW5DD
AE8RN	K5PYT	KB3LPE	KD2ODA	KF4YI	KK4NUX	KQ4AOC	N5WGA	W2WCM	WA2ASD	WX8CLE
AF2B	K5RFO	KB3PET	KD2THP	KF5DHY	KK4RAG	KQ4AXT	N5XJT	W2ZMZ	WA2BTC	WY0MNG
AF5WZ	K5TTD	KB3VXB	KD2VYP	KF5IOU	KK4RWD	KQ4BPZ	N6GC	W3AY	WA2VJL	WY6N
AF6MV	K5VG	KB3WAH	KD2VYZ	KF5PRT	KK4TE	KQ4CIA	N6WKZ	W3JP	WA3CUC	WZ9O
AG5ND	K5WEL	KB4JOY	KD2WDJ	KF5VMD	KK4VJK	KQ4DCT	N7CSB	W3MCE	WA3RSL	
AG5T	K5WRR	KB4TBF	KD2YJQ	KF7HNC	KK4YDR	KQ4EAQ	N7DBK	W4BOG	WA3TOY	
AG5Z	K6BRW	KB6DKK	KD2ZSA	KF7KLS	KK5XU	KQ4EFU	N7EXT	W4CBH	WA4BKL	
AI4JI	K6ODI	KB7BIB	KD3Y	KF8LO	KK7GBE	KQ4EOY	N7HRI	W4CCN	WA4BTC	
AI4K	K6SKI	KB7RAC	KD4EAQ	KG0KP	KL7CCN	KQ4FAC	N7KM	W4CPO	WA4FQZ	
AI5CD	K7BAC	KB8MDF	KD4GUB	KG0SI	KL7JR	KR0DS	N7LPG	W4CXT	WA4IAR	
AI5DN	K7CAN	KB8PRU	KD4TZW	KG4GTR	KL7OR	KR3LL	N7SYD	W4DRO	WA4IGL	
AI7GA	K7ICE	KB8UEY	KD5ZMM	KG4WDQ	KL7RST	KS1I	N7XG	W4KIK	WA4NID	
AI8O	K7IUQ	KB8UGP	KD7QBB	KG4ZOD	KL7WG	KU1V	N7ZS	W4LFK	WA5YNE	
AI8W	K7MKA	KB9BSK	KD8KOZ	KG5GOG	KM4AF	KU4C	N8BF	W4LWY	WA6LBU	
AK1NH	K7PTL	KB9LXM	KD8SAV	KG5RFQ	KM4DCQ	KU8RLY	N8FGK	W4RHB	WA6LJW	
AK4AT	K7QHU	KB9RPG	KD8SBM	KG5RJ	KM4KUW	KX4AA	N8PYA	W4SNT	WA6MRK	
K0GYG	K7RAN	KC0DVV	KD8SEO	KG5RVR	KM4OJK	KY4WVF	N8YYB	W4VGZ	WA7GIJ	
K0JDR	K7RCN	KC0MS	KD9ANS	KG5TLK	KM4P	N0D	N9BFI	W4VRM	WA7SFE	
K0JSC	K7TSW	KC0PCR	KD9HIG	KG8WL	KM4TJY	N0KLH	N9KIY	W5DLP	WA9DIY	
K0OKE	K7UTU	KC0RAM	KD9HPN	KG9PN	KM4UWM	N0LAP	N9PCF	W5DTL	WB2AFC	
K0SSD	K8EG	KC1DBR	KD9ISO	KI0HA	KM5FF	N0MOO	N9VDT	W5FZY	WB2LZM	
K1EDG	K8GIB	KC1FYF	KD9MGL	KI0Y	KM5MS	N0P	NA5H	W5HSV	WB2PDW	
K1TCP	K8ICE	KC1OHT	KD9MIL	KI4QMB	KM6YON	N0PMQ	NA7RG	W5MKC	WB2VKL	
K2LW	K8MSF	KC1OKO	KD9PDJ	KI4WCQ	KM8D	N0PUI	NA9LE	W5NA	WB3BAB	
K2SFS	K8OSF	KC1QIA	KD9QQU	KI5DQ	KN4CCY	N0TJD	NC1V	W5NF	WB5FDP	
K2SHN	K8SSN	KC1QQW	KD9SDX	KI5ITL	KN4CQB	N1ABY	NC8N	W5OCC	WB6AFL	
K2SPD	K9DBB	KC1RUM	KD9VOF	KI5NPM	KN4CZO	N1EV	NE0A	W5QZT	WB7PTC	
K2SPL	K9EA	KC1YL	KE0UDM	KI5NQC	KN4EIW	N1MRI	NF2Q	W5TTS	WB7TAR	
K2SST	K9GWS	KC2DAQ	KE1AF	KI5OKI	KN4GJV	N1PGF	NG8K	W5UOT	WB9EGG	
K2YS	K9KEV	KC2LXD	KE3UY	KI5RQG	KN4HUM	N1YNB	NI0A	W5WJN	WB9TQW	
K3CD	K9LQZ	KC2MJB	KE4HGP	KI5RXG	KN4JEE	N2FSH	NK4T	W5ZA	WC8I	
K3RJG	K9MOE	KC2MMY	KE4MLV	KI5SML	KN4LGM	N2KED	NN1D	W6LFB	WD0J	
K3TJK	K9OM	KC2OMG	KE5CNG	KI5TKD	KN4PIB	N2KWO	NN9T	W6PNY	WD5BGP	

Did you know we had 32 unique DX Stations that checked into our nets during the month of November. There were 20 Canadian DX stations and 12 Other DX stations. As for new stations, we had 289 unique new stations check into the nets in November.

20 CANADIAN DX STATIONS

VE3/K8ICE	VE3LPO	
VE3/KL7CCN	VE3MNP	
VA2KB	VE3OHC	
VA3SLJ	VE3SIQ	
VA3YKT	VE3SIZ	
VA3ZHF	VE3ZSZ	
VE1AC	VE7CLQ	
VE2KLW	VO1AJD	
VE3CMB	VO1IV	
VE3HMK	VO1OM	

12 OTHER DX STATIONS

8P4KM	Barbados	40m SSB E	SV1LJA	Greece	40m SSB L
8P4RG	Barbados	40m SSB E	XE1ACA	Mexico	40m SSB L
9Z4HP	Trinidad	40m SSB E			
EA1GXQ	Spain	40m SSB L			
HI7AMB	Dominican R.	40m SSB E			
HP1DAV	Panama	40m SSB E			
HP3EFS	Panama	40m SSB E			
IV3XYC	Italy	40m SSB L			
ON7HJA	Belgium	40m SSB L			
PD0GTO	Netherlands	20m PSK			

289 NEW STATIONS

AA4FJ	K5KWP	KB8TDS	KD3Y	KF4KCA	KK4WYR	N1ZTH	W1LWT	WD8MWS
AA7VR	K5NIK	KB9GUX	KD4STT	KF4TAP	KK5XU	N2EWC	W1PPL	WD8PKL
AB3TW	K5OKE	KB9VUI	KD5EJG	KF5JLB	KK6PIM	N2KED	W2XR	WE3O
AC1MM	K5SET	KB9VXC	KD5ZMM	KF5LQB	KK7FYW	N2LDY	W3CJT	WG4MC
AC1OC	K5VSD	KC0CDQ	KD7DRS	KF6OCE	KK7GBE	N2QM	W3FAW	WU3I
AC4XD	K6BWB	KC0HGN	KD9AAI	KF7KWT	KK7GLM	N3DDG	W3GAF	WV7MS
AD0RR	K6SKI	KC0LKV	KD9HCO	KF7QNI	KM4VIK	N4RCO	W3RX	WW9Z
AD2ER	K7HSS	KC0RAM	KD9MAK	KF7QQ	KN4CCY	N5OLA	W4CEE	WX4DAT
AD9BK	K7NHC	KC0TEF	KD9PXZ	KG4GTR	KN4KAS	N5PSM	W4DCH	WZ4SKY
AE0SH	K8BPZ	KC1BVL	KD9TVA	KG5OIL	KN6OKY	N5PST	W4DXL	
AF8GO	K8TMJ	KC1FMD	KD9VLZ	KG5PJ	KO4CBI	N5ZHB	W4EHZ	
AG4OA	K9ATL	KC1HGZ	KD9VRF	KG7ERA	KO4RDN	N6LDP	W4SAL	
AI9N	K9KXW	KC1MBJ	KE0AHM	KH6ML	KO4SBA	N6MOS	W4SJP	
AJ4AC	K9LQZ	KC1SGB	KE0IHD	KI5CTA	KO4TKS	N7HRI	W4UIT	
AJ6XI	K9RDX	KC2RID	KE0MFD	KI5JDC	KO4TLN	N7LD	W4WWF	
AK7DX	K9ROB	KC3RES	KE0RUJ	KI5JSA	KO4UFD	N8BEG	W4ZDP	
K0SCS	K9SQG	KC3RRD	KE5RLP	KI5LPJ	KO4VCK	N8BN	W5DLP	
K1EXZ	KA0WRZ	KC3UBR	KE8DGF	KI5NCO	KO4VTJ	N8DLH	W5DSK	
K1ND	KA0YKC	KC3VHD	KE8FZY	KI5SML	KO4VVG	N8KIM	W5EWL	
K1NDF	KA1RJQ	KC4CAD	KE8JVX	KI5TEO	KO4WDE	N8NSK	W5FBS	
K1SON	KA2YEG	KC4TGQ	KE8OVP	KI5VHC	KO4ZOG	N9HDE	W5MUF	
K1UFM	KA3IXG	KC5MJE	KE8RNS	KI5WZJ	KQ4AOC	N9SSM	W5TXC	
K2HZE	KA3OTR	KC5QCN	KE8RFX	KI5YAB	KQ4AXT	NA1H	W7TMD	
K2LW	KA3SBF	KC5ZYP	KE8RZN	KI5YFH	KQ4BWB	NB8R	W8ETD	
K2MS	KA3VID	KC7CJR	KE8UEX	KI5YKG	KQ4CQM	NF0T	W8LDM	
K2YN	KA9TEN	KC8IKQ	KE8UWD	KI7TIG	KQ4EAQ	NI1G	W8LUE	
K3ACZ	KB0CFD	KC9K	KE8VSZ	KJ4ECD	KQ4EM	NO7BS	WA6QBU	
K3AQ	KB0DFC	KD0WUF	KE8WCX	KJ4IHL	KS4YP	NY0ES	WB2LKO	
K3BDM	KB1OTQ	KD2BMD	KF0BFU	KJ4JAH	KW4RB	VO1AJD	WB2PKF	
K3BFP	KB1PZS	KD2EH	KF0CZN	KJ4NLB	N0NWX	VO1IV	WB2UAW	
K3EP	KB2ZZY	KD2GKA	KF0EAU	KJ4VIG	N0RZY	W0ORD	WB4DKF	
K4KOT	KB3DPM	KD2IOB	KF0GV	KK3F	N0UWF	W0PZ	WB5VTX	
K4VML	KB3HEM	KD2UJL	KF0GVX	KK4DFP	N1GKE	W0RST	WB8LEM	
K4WSX	KB4JOY	KD2WNW	KF0HIC	KK4ECL	N1HN	W1BAH	WB8TYD	
K5KUN	KB5QAI	KD2ZOT	KF4CRC	KK4QGN	W1HSB	W1DRV	WB9GKZ	

Unique Check-Ins By State and SSB Net

January 2023

State	75M SSB EARLY	75M SSB LATE	40M SSB EARLY	40M SSB LATE	20M SSB	State	75M SSB EARLY	75M SSB LATE	40M SSB EARLY	40M SSB LATE	20M SSB
Alabama	2	0	6	2	4	Montana	0	0	4	1	0
Alaska	0	0	1	0	1	North Carolina	6	6	12	2	5
Arkansas	5	0	3	5	1	North Dakota	2	0	2	0	0
Arizona	2	1	3	2	1	Nebraska	1	0	4	0	2
California	1	1	7	5	0	New Hampshire	2	0	2	1	1
Colorado	1	1	4	1	0	New Jersey	2	0	7	1	2
Connecticut	1	1	4	1	3	New Mexico	0	1	1	0	0
Delaware	0	0	1	0	0	Nevada	3	0	1	1	0
Florida	5	2	30	5	12	New York	8	1	9	3	2
Georgia	1	1	8	1	4	Ohio	4	1	14	2	7
Hawaii	0	0	0	0	1	Oklahoma	2	1	10	1	4
Iowa	0	0	8	2	4	Oregon	1	2	3	3	0
Idaho	3	1	2	3	1	Pennsylvania	4	1	11	0	5
Illinois	0	1	10	2	0	Rhode Island	0	0	3	1	1
Indiana	2	1	5	0	2	South Carolina	3	3	7	5	2
Kansas	3	1	4	4	0	South Dakota	0	1	1	1	0
Kentucky	0	0	4	0	1	Tennessee	0	1	11	3	7
Louisiana	0	0	4	4	0	Texas	4	0	15	9	6
Massachusetts	1	2	3	2	2	Utah	2	0	0	0	1
Maryland	0	0	3	0	2	Virginia	6	2	5	0	1
Maine	0	0	2	0	2	Vermont	0	0	2	0	0
Michigan	4	0	7	3	4	Washington	0	0	2	1	0
Minnesota	0	0	3	2	1	Wisconsin	0	1	5	0	2
Missouri	0	2	6	2	3	West Virginia	0	0	3	0	0
Mississippi	1	1	6	0	2	Wyoming	0	0	4	0	0

Exit with a Smile!

HQ-100 General-Purpose Communications Receiver — Ten tube superheterodyne with automatic noise limiter. Continuously tunable from 540 KCS to 30 MCS. Electrical bandspread tuning. Q-Multiplier. High sensitivity. Auto-Response automatically adjusts audio bandpass.

\$169⁰⁰*
*Clock-timer \$10.00 extra



EVERY ONE... A HONEY FOR THE MONEY!

HQ-110 Amateur Communications Receiver — Dual conversion superheterodyne with automatic noise limiter. Covers 6, 10, 15, 20, 40, 80 and 160 meter amateur bands. Separate SSB linear. Q-Multiplier. Crystal calibrator. Separate stabilized BFO. Crystal control. Auto-response.

\$229⁰⁰*
*Clock-timer \$10.00 extra



HQ-150 Professional-Type Communications Receiver — Continuously tunable from 540 KCS to 31 MCS. Only receiver to offer selectivity of Q-Multiplier and Crystal Filter. Electrical bandspread. Crystal calibrator. 13 tube superheterodyne with noise limiter. Extremely stable BFO. Uniformly high sensitivity. Extra-high signal-to-noise ratio.

\$294⁰⁰



HC-10 SSB/CW or AM/MCW Converter — Works with any receiver having IF between 450 KCS and 500 KCS. Takes seconds to connect. Complete self-contained audio system and power supply. Tuned IF with seven selectivity positions. Vernier type tuning. Razor-sharp slot filter, adjustable over passband.

\$149⁰⁰



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